



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/795,788	03/08/2004	Tetsuya Fujikawa	0828.69989	7705

7590 11/30/2006

Patrick G. Burns, Esq.
GREER, BURNS & CRAIN, LTD.
Suite 2500
300 South Wacker Drive
Chicago, IL 60606

EXAMINER

ROSASCO, STEPHEN D

ART UNIT	PAPER NUMBER
----------	--------------

1756

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/795,788

Applicant(s)

FUJIKAWA ET AL.

Examiner

Stephen Rosasco

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 3/8/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

Detailed Action

Applicant's election without traverse of Group I (claims 1-) in the reply filed on 1 is acknowledged.

The disclosure is objected to because of the following informalities: there are numerous spelling and grammatical errors present, e.g., claim 1, lines 12-13, "one shield portions"; page 6, line 23, "an area having already exposed...can be overexposed by light leaked..."; page 8, line 8 "between one shield portions".

Appropriate correction is required.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Takizawa et al. (5,795,686).

Takizawa et al. teach a set of exposure mask comprising: a first exposure mask having A-region in which a plurality of patterns are arranged regularly, and B-region adjacent to said A-region, in which said patterns and light-shielding films having sizes in which one or more than two of said patterns are included; and a second exposure mask having C-region in which a plurality of patterns are arranged regularly, and D-region adjacent to said C-region, in which said patterns and light-shielding films having sizes in which one or more than two of said patterns are included.

Art Unit: 1756

And wherein, when said first exposure mask and said second exposure mask are aligned by overlapping said B-region with said D-region such that said patterns according to said first exposure mask and said patterns according to said second exposure mask are arranged regularly as a whole, said patterns and said light-shielding films in said B-region and D-region are arranged so as to overlap said patterns in one of said B-region and D-region with said light-shielding films in the other thereof.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa et al. (5,795,686) in view of Dehli (5,638,156).

The claimed invention is directed to an exposure mask, which is capable of reducing non-uniformity in display by a liquid crystal display device. A mask pattern having pattern-forming portions and shield portions mosaically arranged therein is formed in one end portion of an exposure mask, and a mask pattern having pattern-forming portions and shield portions arranged in a manner complementary to the first-mentioned mask pattern is formed the other end portion of the exposure mask. Further, the exposure mask is formed such that areas between vertically or laterally adjacent ones of the shield portions in mosaic areas where the pattern-forming portions and the shield portions are mosaically arranged are also shielded.

Art Unit: 1756

The applicant discusses the limitations of the prior art in that even when an exposure area is not positionally deviated, an area having already been exposed can be overexposed by light leaking through a gap between shield portions.

Further, the applicant states that the mosaic areas of the exposure mask for exposure of the joint area of step-exposure patterns cannot prevent occurrence of display non-uniformity only by laying out the pattern-forming portions and the shield portions in a simple mosaic arrangement. To realize an enhanced quality of images displayed by the liquid crystal display device, full consideration must be given to the layout of the mosaic areas.

The teachings of Takizawa et al. differ from those of the applicant in that the applicant teaches that the patterns are in the form of a mosaic arrangement.

Dehli teach (see claim 18) a mosaic transparency fixture for exposing a single photo-sensitive film sheet to produce a transparency formed by a plurality of independent images, each formed by spaced apart groups of a selected number of predetermined sized pixels interlaced with and spaced from one another to, in each group form a common pattern with corresponding pixels of each said group correspondingly located and the corresponding pixels of each group disposed at selected points along a predetermined curved endless path.

It would have been obvious to one having ordinary skill in the art to take the teachings of Takizawa et al. and combine them with the teachings of Dehli in order to make the claimed invention because it would have been obvious when performing a successive overlapped pattern exposure that a mosaic arrangement would be beneficial for blocking light from neighboring pixels as light known to overexpose edges of small patterns.

Art Unit: 1756

Conclusion

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Stephen Rosasco whose telephone number is (571) 272-1389. The Examiner can normally be reached Monday-Friday, from 8:00 AM to 4:30 PM. The Examiner's supervisor, Mark Huff, can be reached on (571) 272-1385. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'S. Rosasco', with a stylized flourish extending from the end.

S. Rosasco
Primary Examiner
Art Unit 1756

S. Rosasco
11/27/06